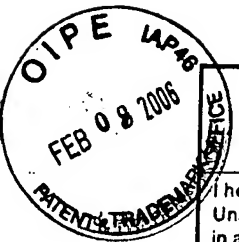


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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

413-010748-US (PAR)

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on 06 February 2006Signature *Lisa Shimizu*

Typed or printed

name Lisa Shimizu

Application Number

10/027,089

Filed

12/20/2001

First Named Inventor

Haapoja

Art Unit

2685

Examiner

Le, Nhan T.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)☒ attorney or agent of record.
Registration number 24,139☐ attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____

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Signature

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Typed or printed name

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Telephone number

06 February 2006

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒*Total of 2 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Pre-Appeal Brief Request For Review

The present invention is an arrangement and method for reducing losses at the transmitting end of a radio apparatus, especially one that operates in more than one system. An interfering transmitter is provided with two antenna filters, one of which is a low-pass-type filter and the other a band-pass filter. The filter (BPF) with a higher stop-band attenuation is used only when the receiver (330, LNA) susceptible to interference is in a receive state. At other times, the filter (LPF) with a lower stop-band attenuation and, hence, a lower pass-band attenuation, is used as the transmitting-end filter.

The invention minimizes the mean current consumption of the radio-frequency power amplifier (PA) of the radio apparatus. This is due to that the lower pass-band attenuation means that a lower gain, and thus lower current consumption, is sufficient in the power amplifier. Also, the space required by, and the production costs of, the arrangement according to the invention are relatively small.

Claims 1, 3, 4, 10, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tarusawa in view of Smith.

The Examiner concedes in the final rejection of Dec. 30, 2005, page 2, that Tarusawa does not disclose a transmitting end filter with at least two antenna filters wholly separated from the receiver as recited in independent claims 1, 13 and 14. For this reason the

Examiner cites Smith. He states that it would have been obvious to one skilled in the art to provide the teaching of Smith in the system of Tarusawa to filter signals with different frequency characteristics. This does not at all mean that the result is like the present invention. The underlined feature above is not clearly disclosed.

In particular, Smith discloses an enlarged duplex filter, which comprises a transmitting and receiving filter pair for each of several radio systems operating in different frequency ranges. A filter can be chosen by switches (Figs. 3 and 4). Tarusawa, in turn, discloses an antenna end arrangement for one radio system using both FDD and TDD technique. Enlarging Tarusawa's system with the Smith duplex filter is so cumbersome that no sensible skilled person would undertake it. Moreover, although a viable combination in some way would be obtained, the result would have nothing to do with the present invention. Namely, neither of those reference inventions relates to an arrangement for reducing losses at the transmitting end as presently claimed in claims 1 & 13. Also, a skilled person would have no suggestion of two antenna filters at the transmitting end having substantially unequal stop-band attenuation in the operating band of the receiver as presently claimed in claims 1, 13 & 14.

Regarding Tarusawa, in the final rejection, page 8, the Examiner rejects arguments referring to the same passages of the Tarusawa's publication as also in the previous Office Action. In addition, he writes "i.e. BPF3 in the range of 1.9 GHz is larger than BPF2 below the range of 0.8 GHz". It is respectfully submitted that this sentence is

meaningless. In fact, the Examiner has presented nothing which disproves applicant's arguments.

Regarding the matter "the radio apparatus with a receiver and at least one transmitter which, when the apparatus is being used, are occasionally simultaneously in signal transfer state" in claims 1, 13 and 14, the Examiner simply insists that Tarusawa fulfills this condition referring to the passage in column 5, line 50 - column 6, line 8. However, there it is only explained the function of the Tarusawa's system in TDD-state and in FDD-state. The Examiner has not been able to respond to applicant's arguments on page 8 of the response of January 3, 2005. Applicant repeats that the meaning "occasionally simultaneously" appears on pages 2 and 3 in the present application.

Because of the fundamental differences in the function of the present invention and Tarusawa's system, it is self-evident that also the purpose and function of Tarusawa's switches differ from the ones of the present switches. Tarusawa does not disclose an arrangement, which comprises switches to form the transmitting end filter of said antenna filters as presently claimed in claims 1,13 and 14. "Said" refers to the filters having substantially unequal stop-band attenuation in the operating band of the receiver.

In the "Response to Arguments" (pages 8 and 9) of the final rejection the Examiner states:

- "Applicant argues that the teaching of Smith and Tarusawa fails to teach filtering signals with different frequency

characteristics and arrangement for reducing losses at the transmitting end. The Examiner disagrees"

First, applicant has absolutely not argued that Smith and Tarusawa fails to teach filtering signals with different frequency characteristics. Instead, applicant has explained the function of the Smith's and Tarusawa's circuits and stated as a conclusion that although a viable combination of Smith and Tarusawa in some way would be obtained, the result would have nothing to do with the present invention.

Second, the Examiner refers to several passages of the Smith reference. However, not one word about the reducing of the losses can be found in the whole reference. The Examiner repeats his contention although there is no disclosure for this contention.

Now considering the passages in detail:

- "Tarusawa discloses the above limitation (a second antenna filter, the stop-band attenuation of which in the operating band of the receiver differs substantially from that of the first antenna receiver), i.e., BPF3 for TDD transmission and reception system in the range of 1.9 GHz is larger than BPF1 FDD reception system in the range of 0.8 GHz."

In the final rejection, the Examiner's "proof" corresponding the underlined sentence was "i.e. BPF3 in the range of 1.9 GHz is larger than BPF2 below the range of 0.8 GHz". In the response it was submitted that this sentence is meaningless. Now the Examiner has tried to improve his proof. As can be seen, the result is as precisely meaningless as the previous proof. Tarusawa does not

disclose two antenna filters, which have substantially unequal stop-band attenuation in the operating bands of the receiver as recited in claims 1, 13 & 14.

-*"Applicant argues that Tarusawa's receiver and transmitter are not occasionally simultaneously in signal transfer state. The Examiner disagrees."* (etc.)

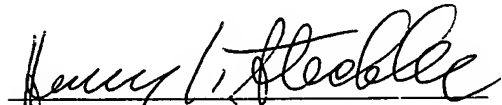
The meaning of "occasionally simultaneously" has been explained on pages 2 and 3 in the application. The Examiner has not understood.

Thus the rejection of claims 1, 3, 4, 10, 11 and 13 should be withdrawn.

Further, Ishizuka, Wright, Parimentier, Beming and Hayes fail to disclose the above features. Hence combining each of them with the above references does not result in the present invention. Thus the rejection of claims 2, 5-9, 12 and 14 should be withdrawn.

Favorable reconsideration and allowance is respectfully requested.

Respectfully submitted,



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Feb 6, 2006
Date

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